INTERRUPT CONTROL

MNEMONIC	CODE	OPERATION	STATES	TIME (μs)
SKON	6000	Skip if Interrupt is On	17	8.5
ION	6001	Enable Interrupts	17	8.5
IOF	6002	Disable Interrupts	17	8.5
SRA	6003	Skip If Interrupts Pending	17	8.5
CAF	6007	Clear All Flags	17	8.5

EXTENDED MEMORY CONTROL

MNEMONIC	CODE	OPERATION
GTE	6004	Get Flags
RTF	6005	Restore Flags
CDF	62N1	Change to Data Field N
CIF	62N2	Change to Instruction Field N after the next JMP or JMS
CDF CIF	62N3	Combination of CDF and CIF
RDF	6214	OR the Data Field Into The AC
RIF	6224	OR the Instruction Field Into the AC
RIB	6234	OR the Save Fields Register into the AC
RMF	6244	Restore Memory Fields

KEYBOARD READER

MNEMONIC	CODE	OPERATION
KCF	6030	Clear Keyboard Flag
KSF	6031	Skip On Keyboard Flag
KCC	6032	Clear Keyboard Flag, Set Reader Run
KRS	6034	Read Keyboard Buffer. Do Not Clear AC or Flag
KIR	6035	Set/Clear Interrupt Enable
KRB	6036	Clear AC and Keyboard Flag, Read Keyboard Buffer, Set Reader Run

PRINTER/PUNCH

TFL	6040	Set Printer Flag
TSF	6041	Skip On Printer Flag
TCF	6042	Clear Printer Flag
TPC	6044	Load Printer Buffer and Print
TSK	6045	Skip If Printer Flag is Set and Interrupts are Enabled
TLS	6046	Clear Printer Flag, Load Buffer and Print

PDP-8E

MINI — 12
MICROCOMPUTER

Pocket Reference

MINI-12 SPECIFICATIONS

Word Length	12 Bits
Instruction Set	PDP-8E compatible
Clock Rate	4 MHZ
Major State Time	500 NS
Serial Interface	DEC-Compatible, 20 MA current loop
Optional Interface	RS-232
Memory	8192 words standard
Mass Storage	Interface and controller are standard for up to 8 Mini-store Digital cassette drives, holding over 2 million words.
Binary Loader	Standard in Rom
Monitor Bootstrap	Standard in Rom
Front Panel	Standard, Offering all PDP 8E Front Panel Functions.
Standard Software	TOS-12 operating system, Superbasic Compiler, Focal Interpreter

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BASIC INSTRUCTIONS

MNENONIC	CODE	OPERATION	STATES	TIME (μs)
AND	0000	Logical AND Direct	10	5.0
		Indirect	15	7.5
		Autoindex	16	8.0
TAD	1000	2's Complement ADD Direct	10	5.0
		Indirect	15	7.5
		Autoindex	16	8.0
ISZ	2000	Increment and Skip If Zero	16	8.0
		Indirect	21	10.5
		Autoindex	22	11.0
DCA	3000	Deposit and Clear AC Direct	11	5.5
		Indirect	16	8.0
		Autoindex	17	8.5
JMS	4000	Jump to Subroutine Direct	11	5.5
		Indirect	16	8.0
		Autoindex	17	8.5
JMP	5000	Jump Direct	10	5.0
		Indirect	15	7.5
		Autoindex	16	8.0
IOT	6000	In/Out Transfer	17	8.5
OPR	7000	Operate	10	5.0

GROUP 1 MICRO INSTRUCTIONS

MNEMONIC	CODE	SE-QUENCE	OPERATION	STATES	TIME (μs)
NOP	7000	1	No Operation	10	5.0
IAC	7001	3	Increment AC	10	5.0
RAL	7004	4	Rotate AC Left	15	7.5
RTL	7006	4	Rotate AC Two Left	15	7.5
RAR	7010	4	Rotate AC Right	15	7.5
RTR	7012	4	Rotate AC Two Right	15	7.5
BSW	7002	4	Byte Swap	15	7.5
CML	7020	2	Complement Link	10	5.0
CMA	7040	2	Complement Accumulator	10	5.0
CIA	7041	2, 3	Complement and Increment AC	10	5.0
CLL	7100	1	Clear Link	10	5.0
CLL RAL	7104	1, 4	Clear Link, Rotate AC Left	15	7.5
CLL RTL	7106	1, 4	Clear Link, Rotate Two Left	15	7.5
CLL RAR	7110	1, 4	Clear Link, Rotate AC Right	15	7.5
CLL RTR	7112	1, 4	Clear Link, Rotate Two Right	15	7.5
STL	7120	1, 2	Set Link to One	10	5.0
CLA	7200	1	Clear Accumulator	10	5.0
CLA IAC	7201	1, 3	Clear and Increment AC	10	5.0
GLT	7204	1, 4	Get the Link	15	7.5
CLA CLL	7300	1	Clear AC and Link	10	5.0
STA	7240	1, 2	Set AC to 7777	10	5.0

GROUP 2 OPERATE MICRO INSTRUCTIONS

MNEMONIC	CODE	SE-QUENCE	OPERATE	STATES	TIME (μs)
NOP	7400	1	No Operation	10	5.0
HLT	7402	3	Halt	10	5.0
OSR	7404	3	OR AC with Switch Register	15	7.5
SKP	7410	1	Skip Next Instruction	10	5.0
SNL	7420	1	Skip On Non-Zero Link	10	5.0
SZL	7430	1	Skip on Zero Link	10	5.0
SZA	7440	1	Skip On Zero Accumulator	10	5.0
SNA	7450	1	Skip On Non-Zero Accumulator	10	5.0
SZA SNL	7460	1	Skip On Zero AC or Non-Zero Link	10	5.0
SNA SZL	7470	1	Skip On Non-Zero AC and Zero Link	10	5.0
SMA	7500	1	Skip On Negative Accumulator	10	5.0
SPA	7510	1	Skip On Positive Accumulator	10	5.0
SMA SNL	7520	1	Skip on Neg. AC or Non-Zero Link	10	5.0
SPA SZL	7530	1	Skip on Pos. AC and Zero Link	10	5.0
SMA SZA	7540	1	Skip on Negative or Zero Accumulator	10	5.0
SPA SNA	7550	1	Skip on Non-Zero, Positive AC	10	5.0
SMA SZA SNL	7560	1	Skip on Negative or Zero AC or Non-Zero Link	10	5.0
SPA SNA SZL	7570	1	Skip on Pos. Non-Zero AC and Zero Link	10	5.0
CLA	7600	2	Clear Accumulator	10	5.0
LAS	7604	1, 3	Load AC with Switch Register	15	7.5
SZA CLA	7640	1, 2	Skip On Zero AC, Clear AC	10	5.0
SNA CLA	7650	1, 2	Skip On Non-Zero AC, Clear AC	10	5.0
SMA CLA	7700	1, 2	Skip On Neg. AC, Clear AC	10	5.0
SPA CLA	7710	1, 2	Skip On Pos. AC, Clear AC	10	5.0

GROUP 3 MICRO INSTRUCTIONS

MNEMONIC	CODE	SE-QUENCE	OPERATION	STATES	TIME (μs)
NOP	7401	3	No Operation	10	5.0
MQL	7421	2	Load AC Into MQ, Clear AC	10	5.0
MQA	7501	2	OR MQ into AC	10	5.0
SWP	7521	3	Swap AC and MQ registers	10	5.0
CLA	7601	1	Clear Accumulator	10	5.0
CAM	7621	3	Clear AC and MQ	10	5.0
ACL	7701	3	Clear AC Then Load MQ into AC	10	5.0
CLA SWP	7721	3	Clear AC, Load MQ into AC, Clear MQ	10	5.0